

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 483447 EMN/mjw	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).	
International Application No. PCT/NZ2003/000176	International Filing Date (day/month/year) 8 August 2003	Priority Date (day/month/year) 8 August 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl.⁷ H04Q 7/38		
Applicant TAIT ELECTRONICS LIMITED et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

- | | | |
|------|-------------------------------------|---|
| I | <input checked="" type="checkbox"/> | Basis of the report |
| II | <input type="checkbox"/> | Priority |
| III | <input checked="" type="checkbox"/> | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| IV | <input checked="" type="checkbox"/> | Lack of unity of invention |
| V | <input checked="" type="checkbox"/> | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI | <input type="checkbox"/> | Certain documents cited |
| VII | <input type="checkbox"/> | Certain defects in the international application |
| VIII | <input checked="" type="checkbox"/> | Certain observations on the international application |

Date of submission of the demand 5 March 2004	Date of completion of the report 3 December 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer MANISH RAJ Telephone No. (02) 6283 2175

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
 pages , as amended (together with any statement) under Article 19,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the sequence listing part of the description:
 pages , as originally filed
 pages , filed with the demand
 pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be nonobvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos: 113 and 116-119

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 113 and 116-119 are so unclear that no meaningful opinion could be formed (*specify*):

These claims were found to be unsearchable under Article 17(2)(b).

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claim Nos. 113 and 116-119

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☒ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Preliminary Examining Authority has found that there are *five (5)* different inventions as follows:

1. Claims 1-74 are directed to "*a communications system*" including the following features:

- (i) a plurality of base station receivers,
- (ii) a plurality of mobile transceivers,
- (iii) the mobile transceivers are further adapted to control allocation of system resources to enable communication.

It is considered that "*mobile transceivers are adapted in controlling allocation of system resources*" comprises a first "special technical feature".

Continued on the Supplement sheet.....

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
- ☐ the parts relating to claims Nos.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-74, 75-85, 86-107, 108-112, 114-115	YES
	Claims	NO
Inventive step (IS)	Claims 1-74, 75-85, 86-107, 108-112, 114-115	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-74, 75-85, 86-107, 108-112, 114-115	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

Claims 1-74 are novel and involve inventive step because no individual citation or obvious combination of citations teach or suggest a communication system including a plurality of base station transceivers, a plurality of mobile transceivers and wherein the mobile transceivers are adapted to control the allocation of the system resources to enable communication, as claimed in the independent claims 1 and 52.

Claims 75-85 are novel and involve inventive step because no individual citation or obvious combination of citations teach or suggest a method of estimating a transition in a signal including sampling an incoming signal, comparing the sample levels in a first group of samples with the sample levels in a second group of samples, comparing the sample levels of samples within the first and second group of samples, comparing the sample level of middle sample with an adjacent middle sample and estimating a transition point in the signal from the comparisons, as claimed in the independent claims 75, 84 and 85.

Claims 86-107 are novel and involve inventive step because no individual citation or obvious combination of citations teach or suggest a method for synchronising the clocks of a first node and a second node in a network, as claimed in the independent claims 86, 94 and 101.

Claims 108-112 are novel and involve inventive step because no individual citation or obvious combination of citations teach or suggest a method of allocating communication resources for a mobile terminal in a communication system as claimed in the independent claims 108, 110 and 112.

Claims 114-115 are novel and involve inventive step because no individual citation or obvious combination of citations teach or suggest a communication system in which data is transmitted in packets, as claimed in the independent claim 114.

Claims 1-74, 75-85, 86-107, 108-112, 114-115 are considered to have industrial applicability.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. No meaningful construction can be given to claims 113 and 116-119 as independent claims 113 and 116 are of indeterminate scope and do not define the invention for which protection is sought.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of (Lack of Unity of Invention)

2. Claims 75-85 are directed to "*a method of estimating a transition in a signal*" including the following features:

- (i) sampling an incoming signal,
- (ii) comparing the sample levels of samples within the first group of samples,
- (iii) comparing the sample levels of samples within the second group of samples,
- (iv) comparing the sample level of a middle sample with an adjacent middle sample,
- (v) estimating a transition point in the signal from the comparisons.

It is considered that "*estimating a transition point in the signal from the comparisons*" comprises a second "special technical feature".

3. Claims 86-107 are directed to "*a method of synchronising the clocks of a first node and a second node in a network*" including the following features:

- (i) sending a first synchronisation message from the first node to the second node,
- (ii) sending a second synchronisation message from the second node to the first node,
- (iii) determining a first difference as the difference between the time the first message was sent and when the first message was received,
- (iv) determining a second difference as the difference between the time the second message was sent and when the second message was received,
- (v) determining a clock error as the average of the difference between the first and second differences, and
- (vi) adjusting the clock of either the first node or the second node by the clock error.

It is considered that "*adjusting the clock of either the first node or the second node by the clock error*" comprises a third "special technical feature".

4. Claims 108-112 are directed to "*a method of allocating communication resources for a mobile terminal in a communications system that utilises a base station network*" including the following features:

- (i) identifying uplink channel usage,
- (ii) identifying one or more spare uplink channels, and
- (iii) transmitting over the one or more identified channels without negotiation with the base station.

It is considered that "*transmitting over the one or more identified channels without negotiation with the base station*" comprises a fourth "special technical feature".

5. Claims 114-115 are directed to "*a communications system in which data is transmitted in packets*" including the following features:

- (i) before transmitting data a transmitter provides a distinction between payload sequences and synchronisation sequences in the signal by scanning the payload sequence,
- (ii) introducing errors into the portions of the payload sequence, and
- (iii) the introduced errors are within an error correction capability of a payload error correction code.

It is considered that "*scanning the payload sequence and introducing errors into the portions of the payload sequence*" comprises a fifth "special technical feature".

Since the above mentioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.